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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/814,790	04/01/2004	Han Joo Yoo	1594.1433	4951
21171	7590	08/03/2005	EXAMINER	
STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			NORMAN, MARC E	
			ART UNIT	PAPER NUMBER
			3744	

DATE MAILED: 08/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/814,790

**Applicant(s)**

YOO, HAN JOO

**Examiner**

Marc E. Norman

**Art Unit**

3744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4/1/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baldwin et al.

As per claims 1 and 4, Baldwin et al. teaches an air conditioning/refrigeration system comprising a compressor (C1 and C2), condenser 14, condenser fan (CFA and CFB), outdoor temperature sensor 64, and a control unit 20 determining whether the compressor should operate or not (column 7, lines 42-43) if the outdoor sensor is out of order (column 7, lines 29 and 31-34) and controlling the condenser fan accordingly (column 7, line 44). While the system of Baldwin et al. is directed to an air conditioning system rather than a refrigerator per se, the Examiner notes these two types of systems operate in substantially the same manner to control the

Art Unit: 3744

temperature of a space using a vapor compression system. (It is also noted that the refrigerator is solely mentioned in the preamble of the claims and does not breathe life and meaning into the claims in a way that would distinguish between the functioning of a refrigerator or of an air conditioning system.) Further, Baldwin et al. does not specifically state that the decision whether or not to operate the compressors is based on an operation load. However, official notice is taken that load requirements are a common and typical determination as to whether to run an air conditioning/refrigeration system that would have been obvious to one of ordinary skill in the art at the time of the invention to apply to the system of Baldwin et al. for the general purpose of energy efficiency.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baldwin et al. in view of Lee.

As per claim 2, Baldwin et al. does not teach a built in temperature sensor or the operation load being calculated based on the temperature sensor reading. It is common and well-known in the art to calculate a refrigeration load in this manner, Lee, for example, teaches a refrigeration system wherein load is determined by a sensed inner temperature (see Abstract, lines 4-8). It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply this technique to the system of Baldwin et al. for the purpose of providing an operation load value to the controller.

Claims 3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baldwin et al. in view of Oike.

As per claims 3 and 5, Baldwin et al. does not teach using negative temperature thermistors or resistors, or comparing the sensor voltage to a reference voltage. However, such

Art Unit: 3744

deices are old and well known as a means for determining sensor failures. Oike, for example, teaches a refrigerating system wherein temperature sensor failure is determined using sensors comprising negative temperature characteristics and comparing the sensor voltage output to a predetermined voltage range (see Abstract, lines 16-21; column 1, lines 26-27; column 3, lines 1-3; etc.). It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply this technique to the system of Baldwin et al. for the common purpose of determining sensor failure.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc E. Norman whose telephone number is 571-272-4812. The examiner can normally be reached on Mon.-Fri., 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on 571-272-4834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Application/Control Number: 10/814,790

Page 5

Art Unit: 3744

MN

A handwritten signature in black ink, appearing to read 'M. Norman', with a stylized, flowing script.

**MARC NORMAN  
PRIMARY EXAMINER**